



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/685,560

10/14/2003

Gerchih Chou

AVAN 2761

4920

7812 7590 02/09/2007
SMITH-HILL AND BEDELL, P.C.
16100 NW CORNELL ROAD, SUITE 220
BEAVERTON, OR 97006

EXAMINER

AHN, SAM K

ART UNIT

PAPER NUMBER

2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

2 MONTHS

02/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/685,560

Applicant(s)

CHOU ET AL.

Examiner

Sam K. Ahn

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on pre-amdt, 07/26/05.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 1-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>060204</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figures 1 and 4-7 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-24 are objected to because of the following informalities:

In claims 1,4-6,10,13,16-18 and 22, delete the letters including the parenthesis in the claim, such as VX, VR, Z and X.

In claim 7, line 1, "wherein first" should be "wherein the at least one filter control signal comprising", line 2.

In claim 8, line 2, " $G1_n * Z_{n-1} + G2_n * Z_n$ " should be " $G1_n * Z_n + G2_n * Z_{n-1}$ " and define Z_{n-1} in the claim.

In claim 9, line 1, "one filter control signal" should be "the at least one filter control signal".

Art Unit: 2611

In claim 10, line 4, "signal (Y), the second" should be "signal and the second".

In claim 19, line 1, "generates the" should be "generates the at least one filter control signal comprising", line 2, "signals a" should be "signals".

In claim 20, line 2, " $G1_n * Z_{n-1} + G2_n * Z_n$ " should be " $G1_n * Z_n + G2_n * Z_{n-1}$ ", and define Z_{n-1} in the claim.

In claim 21, lines 1-2, "one filter control signal i" should be "the at least one filter control signal".

In claim 22, line 3, "(Y), the second data signal. and samples" should be "and the second data signal, and samples".

Claims 2,3,11,12,14,15,23 and 24 directly or indirectly depend on claim 1 or 13.

Appropriate correction is required.

Allowable Subject Matter

3. Claims 1-24 would be allowable if rewritten or amended to overcome the claim objections, set forth in this Office action.
4. The following is a statement of reasons for the indication of allowable subject matter:
present application discloses a method and an apparatus of equalizing a received signal. Prior art teaches or suggests in combination of an equalizer coupled to receive the received signal further providing its output to a clock and data recovery circuit wherein a control signal for the equalizer is based on an output signal of the clock and data recovery circuit. However, prior art does not explicitly teach wherein

the clock and data recovery circuit generates two data signals each representing sampled magnitudes of the received signal on its leading and trailing edges of a clock signal from the clock and data recovery circuit and producing the control signal for the equalizer based on the two data signals.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Stojanovic et al. US 2004/0203559 A1 teach a receiver comprising a clock and data recovery circuit.

Shirota US 2003/0142773 A1 teach a receiver comprising edge detector in a clock and data recovery circuit.

Wood et al. US 2004/0252754 A1 teach a receiver comprising an equalizer coupled to a clock and data recovery circuit.

Taguchi et al. US 5,959,942 teach an apparatus comprising detection of a jitter through analysis of leading and trailing edges of a received signal.

Bishop et al. US 7,003,028 B1 teach an adaptive equalizer for adjustable gain control within a receiver.

6. This application is in condition for allowance except for the following formal matters:

Drawings and claim objections

Art Unit: 2611

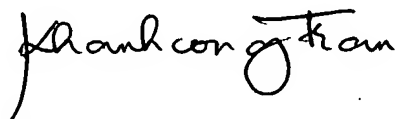
Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



KHANH TRAN
Primary Examiner

Sam K. Ahn
Patent Examiner

1/29/07